

## CLAIMS

What is claimed is:

1. An HVAC system comprising:
  - a thermostat incorporating a central control, and operator input switches;
  - a data bus communicating control signals from said central control to an indoor HVAC unit, said indoor HVAC unit being operable to provide a heating function to air within an environment, said indoor HVAC unit being provided with a control that directly controls said indoor HVAC unit, and which receives control signals on said data bus from said central control.
2. The HVAC system as set forth in claim 1, wherein an outdoor HVAC unit is provided with its own control, and said outdoor HVAC unit control communicating with said central control over said data bus.
3. The HVAC system as set forth in claim 1, wherein at least one peripheral HVAC unit includes its own control, and communicates through said indoor HVAC unit control to provide control signals to and from said central control.
4. The HVAC system as set forth in claim 1, wherein four wires communicate said indoor HVAC unit control to said central control, with two of said wires carrying power, and two of said wires carrying said control signals with a plurality of distinct signals being sent over said two wires carrying control signals.

5. The HVAC system as set forth in claim 1, wherein at least one peripheral unit is hard-wired to said indoor HVAC unit control, and said indoor HVAC unit control being designed to include control information for said at least one peripheral unit.
6. The HVAC system as set forth in claim 1, wherein an interface module is provided with a control to communicate with said data bus from an associated HVAC unit that does not have a control capable of receiving control signals over said data bus, said interface module being hard-wired to said associated HVAC unit, and said interface module being provided with control information for controlling said associated HVAC unit.
7. The HVAC system as set forth in claim 1, wherein a remote sensor generally communicates with said central control over said data bus.
8. The HVAC system as set forth in claim 1, wherein said central control and said indoor HVAC unit control are both microprocessors.
9. The HVAC system as set forth in claim 1, wherein said control signals include an identifier for routing information for said data bus.

10. An HVAC system comprising:

a data bus including four wires communicating signals from a central control to a control for an indoor HVAC unit, said data bus including two control wires carrying a plurality of distinct control signals and two power wires carrying power, said indoor HVAC unit providing a power source for providing power over said two power wires, said central control being a system control for generating and sending controls signals to said indoor HVAC unit control, said indoor HVAC unit being operable to provide heating and a fan function to move air within an environment; and

an outdoor HVAC unit provided with four wires, with two power wires carrying power signals, and two control wires carrying a plurality of distinct control signals from said outdoor HVAC unit to said central control, said central control providing control signals to said outdoor HVAC unit control to operate said outdoor HVAC unit.

11. The HVAC system as set forth in claim 10, wherein at least one peripheral unit is hard-wired to said indoor unit control, said indoor HVAC unit control being designed to include control information for said at least one peripheral unit.

12. The HVAC system as set forth in claim 11, wherein said at least one peripheral unit is a humidifier.

13. The HVAC system as set forth in claim 10, wherein at least one peripheral unit incorporating a control controlling its functions, said at least one peripheral unit control communicating with said central control over four wires, with two power wires and two control wires carrying controls signals from said central control to said at least one peripheral unit control.

14. The HVAC system as set forth in claim 13, wherein said at least one peripheral unit is a damper control module.

15. The HVAC system as set forth in claim 13, wherein said at least one peripheral unit is a sensor for sensing a condition in a room, said sensor providing signals to said central control over said two control wires.

16. The HVAC system as set forth in claim 10, wherein said outdoor HVAC unit control communicates with said central control serially through said indoor HVAC unit control.

17. The HVAC system as set forth in claim 10, wherein said outdoor HVAC unit control and said indoor HVAC unit control separately connect into said data bus to communicate to said central control.

18. The HVAC system as set forth in claim 10, wherein an interface module is provided with a control to communicate with said data bus from an associated HVAC unit that does not have a control capable of receiving control signals over said data bus, said interface module being hard-wired to said associated HVAC unit, and said interface module being provided with control information for controlling said associated HVAC unit.

19. The HVAC system as set forth in claim 10, wherein said central control, said indoor HVAC unit control and said outdoor HVAC unit control are all microprocessors.

20. The HVAC system as set forth in claim 10, wherein said control signals include an identifier for routing information for said data bus.

21. The HVAC system as set forth in claim 10, wherein said four wires are provided by four distinct and separate wires.

22. An HVAC system comprising:

a central control;

a thermostat having operator input switches;

an indoor HVAC unit being operable to provide a heating function to air within an environment, said indoor HVAC unit being provided with a control that directly controls said HVAC unit; and

a data bus communicating control signals from said central control to and from said thermostat and at least to said indoor HVAC unit, said indoor HVAC unit receiving control signals on said data bus from said central control and signals from said operator input switch being passed to said central control to generate control for said indoor HVAC unit over said data bus.